

NATIONAL CAVE AND KARST RESEARCH INSTITUTE

MONTHLY UPDATE FOR MARCH 2004

PROGRESS MADE BY THE INSTITUTE STAFF AND PARTNERS THIS MONTH:

- Louise Hose (LH) and Penny Boston (PB) submitted a full paper to the 2003 National Cave and Karst Management Symposium Proceedings volume.
- New Mexico Governor Bill Richardson signed House Bill 436, which had been introduced by State Representative John Heaton, establishing official state recognition of the National Cave and Karst Research Institute in Carlsbad and its relationship to New Mexico Institute of Mining and Technology. The legislation authorizes NCKRI to receive appropriations from the New Mexico legislature through the board of regents at New Mexico Tech.
- PB spoke in Carlsbad on March 15th on the connection between some cave ecosystems and the search for life on Mars and other extraterrestrial bodies. The presentation, titled *The Planet Within: Caves from New Mexico to Mars*, launched a new lecture series initiative by the Institute and was extremely well-received by the nearly 100 local community members who attended.
- Roger Scott (RS) set up logistics, drafted, and distributed press release on first NCKRI Lecture series.
- Dr. Thomas R. Strong has been offered the position of Visiting Chief Scientist for NCKRI. He has accepted and his arrival at NCKRI will occur in early April. Dr. Strong has a long history of exploration and scientific activities in cave environments. His formal education is very broad ranging from chemical engineering to vertebrate biology. Dr. Strong's extensive grasp of the scientific issues across the field of speleology will be a significant asset to NCKRI as we bring shape to the future of our Institute.
- PB, RS, LH, and Tom Strong met for half of a day to discuss the future of the Institute and the relationship between New Mexico Tech, the NPS, and the Institute.
- Drs. Boston's and Strong's simultaneous visit to Carlsbad allowed the opportunity for their introduction to several key Carlsbad supporters, including Mayor Bob Forrest and a nearly hour-long meeting with City Administrator Jon Tully and LH.
- Roger Scott announced that he will be leaving Carlsbad and the Institute by mid-April. Roger's wife, Mary Gibson Scott, has accepted the Superintendent's position at Grand Teton National Park. We greatly regret losing Roger, who has helped NCKRI thrive in many ways, but send him and Mary our heartfelt best wishes as they pursue new and interesting challenges.
- LH gave a presentation on the *Caves of Oman* to the Carlsbad Chapter of the American Association of University Women.
- LH and other NPS-Geologic Resources Division staff (Dave Shaver, Ed Kassman, and Carol McCoy) met with Department of Interior Solicitor Gerald O'Nan, NPS Contracting Officer Shirley Norton, and NPS Space Management specialist Susan Speakman to determine the proper method to transfer the federal allocation for the headquarters building to the City of Carlsbad. LH and Shaver held follow-up

conversations with Jon Tully of the City and Richard Cervantes of New Mexico Tech. The process continues.

- RS and LH worked with contract graphic artist Darlene Nelson on the 2003 NCKRI Annual Report.
- LH advised Paul Christensen of the NPS Water Resources Division on potentially useful resources and contacts for a planned project on water-related issues in Carlsbad Caverns National Park.
- LH attended the Department of Interior's 3-day *Introduction to Grants and Cooperative Agreements* class in Albuquerque.
- Lewis Land (LL) participated in field trip organized by USFWS and BLM personnel to examine sinkholes and other gypsum karst features on and adjacent to Bitter Lakes National Wildlife Refuge, east of Roswell.
- LL attended southwest section meeting of the American Association of Petroleum Geologists (AAPG) in El Paso, TX. The conference focused on lower Paleozoic hydrocarbon reservoirs in west Texas and southeast New Mexico. Much of the oil and gas produced from lower Paleozoic strata in this region is from paleokarst and paleocave facies within Ordovician and Devonian carbonates. Several speakers addressed the role of paleokarst in hydrocarbon production. LL also participated in AAPG post-conference field trip to Otero Mesa, which focused on karst hydrology of the San Andres Formation.
- LL assisted John McLean (USGS, ret.) in conducting resistivity surveys adjacent to blowholes in northern Sacramento Mountains and on south flank of Chupadera Mesa.
- LL provided a guest lecture on karst to the NMT class on Cave and Karst Systems.
- Institute staff selected the NCKRI logo following a public review. The logo will begin to appear on various Institute documents. RS worked directly with the architect and designer on the project.
- Dr. Warren Lewis of Albuquerque, a long-time caver and avocational speleologist, donated 15 boxes of cave and karst related books and publications to the Institute. His donation and support of the Institute is greatly appreciated.
- The Cave and Karst Studies Program at New Mexico Tech is participating in a proposal effort to the National Science Foundation's IGERT Program. This Interdisciplinary Graduate Education, Research, and Training program supports PhD-level education at universities with an emphasis on cross-disciplinary research. Our chosen area is biogeohydrology. We are emphasizing the vertical connection between the subsurface and the surface. Clearly, the study of cave and karst systems is a highly interdisciplinary arena and will play a major role in our chosen theme. PB has agreed to be the PI on this effort. NCKRI is envisioned as a participating organization. If funded, this will entail serving as an internship site for PhD students working specifically on interdisciplinary cave and karst issues.
- PB gave the keynote banquet speech at the Association of Mars Explorers, at the NASA Astrobiology Institute Conference at NASA Ames Research Center. The speech was presented on March 30th to a select group of ~40 researchers who have operated in extreme environments that are Mars analog sites, e.g., the Antarctic, the Atacama Desert, and chemically extreme caves. Entitled *Exploring*

the Caves of Mars, Boston surveyed the most astrobiologically interesting Earth caves and she discussed the growing catalog of Mars lava tube caves that she is amassing and plans for robotic and eventual human exploration of these caves. Dr. Baruch Blumberg, former NASA Astrobiology Institute Director and Nobel Laureate, suggested that virology in cave environments could be fertile ground for research and is essentially unexplored. Accordingly, he invited Boston to become a member of the NASA Extreme Virology Focus Group.

- RS coordinated updates for NCKRI web site
- RS coordinated a Carlsbad *Current Argus* interview with Director Hose.
- LH assisted Guadalupe District Ranger Jamie Kingsbury in distributing information to appropriate mailing lists and websites concerning a position opening within the Lincoln National Forest for a Cave/Recreation Management Specialist.
- LH reviewed a grant application for the National Geographic Expedition Council.

PLANS: Anticipated activities for the near future include:

- We hope to have copies of the 2003 Annual Report available by mid- to late-April.
- The Institute will continue working on a draft business/operations plan.
- National Park Service staff will continue working on a Cooperative Agreement between the NPS and the City of Carlsbad, and another between the NPS and New Mexico Tech in order to facilitate the transfer of nearly \$2 million appropriated by Congress as a “pass-through” to the City for the NCKRI building.
- We anticipate continuing discussion with the National Speleological Society concerning a potential partnership arrangement supporting the *Journal of Cave and Karst Studies*.
- Dr. Arthur Palmer of the State University of New York – Oneonta has agreed to give the next NCKRI lecture in Carlsbad, tentatively scheduled for June 28th.

NCKRI STAFF:

LH – Louise Hose, National Park Service

RS – Roger Scott, National Park Service

LL – Lewis Land, New Mexico Bureau of Geology and Mineral Resources (NMBGMR)

PB – Penelope Boston, New Mexico Institute of Mining and Technology